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the innovative family

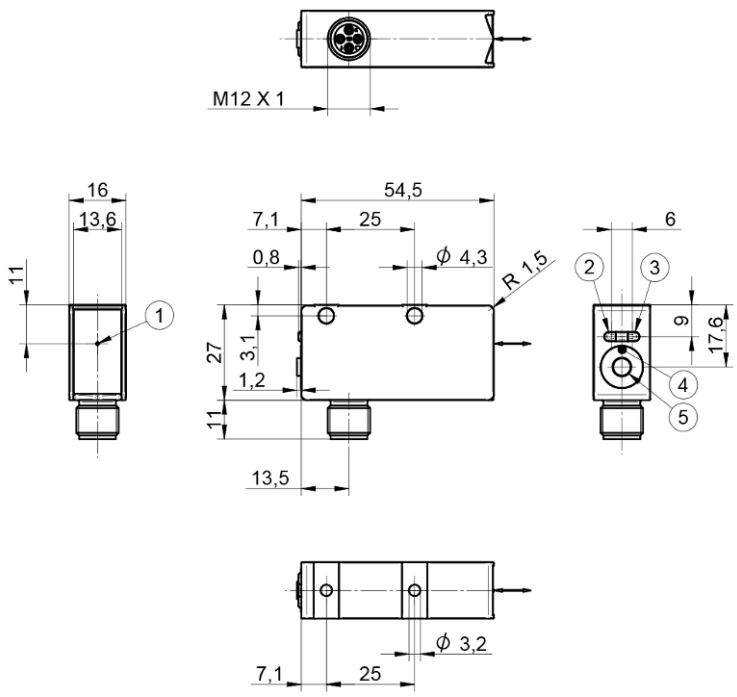
Technical Data

P1MK102

Retro-Reflex Sensor

for Transparent Objects





Symbol	Key
1	Optical axis
2	Power LED
3	Switching status indicator/contamination warning
4	NFC Interface
5	Teach-in button

EN

Dimensions in mm
Subject to change without notice
Version 0
www.wenglor.com

Technical data

Optical Data	
Range	4500 mm
Reference Reflector/Reflector Foil	RQ100BA
Clear Glass Recognition	yes
Smallest Recognizable Part	see table 2
Switching Hysteresis	< 5 %
Light Source	LED, red
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Light Spot Diameter	see table 1
Optics	Single-Lens Optic
Optical axis	Aligned
Switching point	Calibrated

Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (Ub = 24 V)	< 20 mA
Switching Frequency	1000 Hz
Switching frequency (speed mode)	2000 Hz
Response Time	0.5 ms
Response time (speed mode)	0.25 ms
Temperature Drift	< 5 %
Temperature Range	-40...60 °C
Switching Output Voltage Drop	< 2 V
Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Lockable	yes
Teach Mode	NT, MT
Interface	IO-Link V1.1
Data Storage	yes
Protection Class	III

Mechanical Data	
Setting Method	Teach-in/NFC
Housing Material	Plastic, ABS-GF
Degree of Protection	IP67 IP68
Connection Type	Plug variant
Connection	M12 × 1; 4-pin
Optic Cover	Plastic, PMMA

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1629.76 a

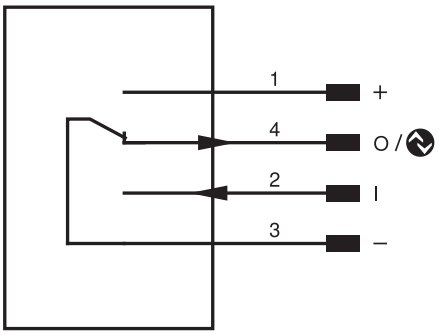
General Data	
Scope of delivery	1 × initial start-up instructions 1 × sensor

Adjustable parameters	
Output	Push-pull NPN PNP
Circuit	inactive Error output NC NC+NO NO
Other parameters	Off-delay On-delay Mode of operation Hysteresis Switching point Emitted light Dynamic readjustment

All other parameters can be found in the product documentation.

BMECat data	
eCl@ss 5.1.4	27-27-09-02 Reflection light barrier
eCl@ss 6.x	27-27-09-02 Reflection light barrier
eCl@ss 7.0	27-27-09-02 Reflection light barrier
eCl@ss 7.1	27-27-09-02 Reflection light barrier
eCl@ss 8.x	27-27-09-02 Reflection light barrier
eCl@ss 10.0.1	27-27-09-02 Reflection light barrier

Technical illustrations



Pin	Pin function	Polarity	Circuit
1	Supply Voltage +		
2		High activ	
3	Supply voltage 0 V		
4	Switching output IO-Link	NPN	NC

Table 1			
Working Distance	1 m	2 m	4,5 m
Light Spot Diameter	50 mm	90 mm	180 mm

Table 2			
Distance, Sensor to Reflector	1 m	2 m	4,5 m
Smallest Recognizable Part	1,5 mm	4 mm	10 mm

Reflector data	
RQ100BA	0...4.5 m
RE18040BA	0...3 m
RQ84BA	0...3.5 m
RR84BA	0...4 m
RE9538BA	0...1.5 m
RE6151BM	0...3.6 m
RR50_A	0...2.3 m
RE6040BA	0...3.5 m
RE8222BA	0...2 m
RE3220BM	0...1.2 m
RE6210BM	0...1 m
RR25_M	0...1.2 m
RR25KP	0...0.8 m
RR21_M	0...1 m
ZRAE02B01	0...2 m
ZRME01B01	0...0.6 m
ZRME03B01	0...2.1 m
ZRMR02K01	0...0.8 m
ZRMS02_01	0...1 m
RF505	0...1.2 m
RF508	0...1.1 m
RF258	0...1 m
ZRDF03K01	0...3 m

Reflector type, mounting distance